

L Number	Hits	Search Text	DB	Time stamp
-	4	((("5939236") or ("6261743"))).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:34
-	29335	antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:35
-	29206	resin adj binder	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:52
-	2725	acid adj generator	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:38
-	1194	thermal adj2 generator	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:38
-	2171	((photoacid photo-acid photo adj acid) adj2 generator	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:39
-	6832	pag!	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:39
-	55	PAVELCHEK-E-.in. PAVELCHEK-EDWARD-.in. PAVELCHEK-EDWARD-K-.in. PAVELCHEK-E-K-.in. PAVELCHEK-.in. DOCANTO-M-.in. DOCANTO-.in. DOCANTO-MANUEL-.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:43
-	930	tarc! barc!	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:50
-	4475	(arc!) near (coating film layer material)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:51
-	16	((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same ((acid adj generator) (thermal adj2 generator)) same (((photoacid photo-acid photo adj acid) adj2 generator) pag!)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:00
-	23	((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same (acid (thermal adj2 generator)) same (((photoacid photo-acid photo adj acid) adj2 generator) pag!)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:01

-	7	((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same (acid (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!)) not ((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same ((acid adj generator) (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 13:58
-	8103	antihalation anti-halation anti adj halation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:00
-	8	((antihalation anti-halation anti adj halation)) same (resin adj binder) same (acid (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:01
-	0	((antihalation anti-halation anti adj halation)) same (resin adj binder) same (acid (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!)) not (((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same ((acid adj generator) (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:50
-	11	((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material))) same (resin adj binder) same (acid (thermal adj2 generator)) same ((photoacid photo-acid photo adj acid) adj2 generator) pag!)) or ("4362809") or ("4370405") or ("4910122") or ("4576898") or ("4060656") or ("5541037") or ("5669784") or ("5886102") or ("5851730") or ("5756255") or ("5635333").PN.	USPAT; US-PGPUB	2003/05/20 14:54
-	2	((("4362809") or ("4370405") or ("4910122") or ("4576898") or ("4060656") or ("5541037") or ("5669784") or ("5886102") or ("5851730") or ("5756255") or ("5635333").PN.) and ((antireflective antireflection anti-reflective anti-reflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material)) (antihalation anti-halation anti adj halation)) and ((thermal adj2 generator) acid) and ((photoacid photo-acid photo adj acid) adj2 generator) pag!))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 15:01
-	2	ep-542008-\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:58

-	2	wo-9003598-\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 14:59
-	2	wo-9322901-\$.did.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 15:01
-	1	((("5851730") or ("5110697")).PN.) and ((antireflective antireflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material)) (antihalation anti-halation anti adj halation)) and ((thermal adj2 generator) acid) and ((photoacid photo-acid photo adj acid) adj2 generator) pag!)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 15:03
-	4	((("5851730") or ("5110697")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 15:02
-	4	((("5851730") or ("5110697")).PN.) and ((antireflective antireflection anti adj reflective anti adj reflection) (tarc! barc! ) ((arc!) near (coating film layer material)) (antihalation anti-halation anti adj halation)) ((thermal adj2 generator) acid) ((photoacid photo-acid photo adj acid) adj2 generator) pag!))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/05/20 15:03

DERWENT-ACC-NO: 1999-492970

DERWENT-WEEK: 200176

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TITLE: Antireflective coating composition  
for use with deep UV  
photoresist in integrated circuit  
manufacture

INVENTOR: DOCANTO, M; PAVELCHEK, E K

PATENT-ASSIGNEE: SHIPLEY CO LLC[SHIL]

PRIORITY-DATA: 1997US-0797741 (February 7, 1997)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	
LANGUAGE		MAIN-IPC	
US 5939236 A		August 17, 1999	N/A
012	G03F	007/095	
JP 11133618 A		May 21, 1999	N/A
055	G03F	007/11	
KR 98071125 A		October 26, 1998	N/A
000	C09D	005/32	

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
US 5939236A	N/A	
1997US-0797741	February 7, 1997	
JP 11133618A	N/A	
1998JP-0061845	February 6, 1998	
KR 98071125A	N/A	
1998KR-0003372	February 6, 1998	

INT-CL (IPC): C09D005/00, C09D005/32 , G03F007/004 ,  
G03F007/095 ,  
G03F007/11

ABSTRACTED-PUB-NO: US 5939236A

BASIC-ABSTRACT:

NOVELTY - By incorporating a photoacid generator in the antireflective layer composition sufficient acid can be generated in the antireflective layer during exposure of the photoresist layer to compensate for diffusion or neutralization in the resist layer. As a result resist relief images having vertical profiles and with little footing can be produced.

DETAILED DESCRIPTION - Substrate coated with layers comprising:

- (a) Antireflective composition comprising; resin binder; acid or thermal acid generator; photoacid generator;
- (b) Photoresist comprising a resin and a photoacid generator.

An INDEPENDENT CLAIM also includes a substrate coated with:

- (a) Antireflective composition comprising resin binder and photoacid generator free of crosslinker component;
- (b) Chemically-amplified positive acting photoresist comprising a resin and a photoacid generator.

USE - Photolithographic processes for semiconductor device or integrated circuit manufacture, particularly using deep UV radiation.

ADVANTAGE - The antireflective composition reduces undesired notching and footing of an overcoated photoresist relief image.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: ANTIREFLECTIVE COATING COMPOSITION DEEP  
ULTRAVIOLET PHOTORESIST  
INTEGRATE CIRCUIT MANUFACTURE

DERWENT-CLASS: A89 G06 L03 P84 U11

CPI-CODES: A12-E07C; A12-L02B2; G06-A02; G06-D06;  
G06-F03C; L04-C06B;

EPI-CODES: U11-C04A1H;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; D01 D07 D21 D18 D33 D79 ; P0226 P0282\*R D01 D18  
F30 ; P0497  
P0464 P0226 P0282 M2175 D01 D18 ; M9999 M2175 ; M9999  
M2073 ; M9999  
M2095\*R ; K9858 K9847 K9790 ; L9999 L2391 ; L9999  
L2095\*R ; M9999  
M2391 ; M9999 M2186

Polymer Index [1.2]

018 ; D07 D25 D22 D79 D33 D41 F15 ; P0226 P0282\*R D01  
D18 F30 ;  
P0497 P0464 P0226 P0282 M2175 D01 D18 ; M9999 M2175 ;  
M9999 M2073  
; M9999 M2095\*R ; K9858 K9847 K9790 ; L9999 L2391 ;  
L9999 L2095\*R  
; M9999 M2391 ; M9999 M2186

Polymer Index [1.3]

018 ; D01 D24 D22 D32 D78 D41 F15 F31 F30 ; P0226  
P0282\*R D01 D18  
F30 ; P0497 P0464 P0226 P0282 M2175 D01 D18 ; M9999  
M2175 ; M9999  
M2073 ; M9999 M2095\*R ; K9858 K9847 K9790 ; L9999 L2391  
; L9999  
L2095\*R ; M9999 M2391 ; M9999 M2186

Polymer Index [1.4]

018 ; ND01 ; Q9999 Q8684 Q8673 Q8606 ; Q9999 Q7476  
Q7330 ; B9999  
B4400\*R B4240 ; Q9999 Q6791 ; B9999 B4988\*R B4977 B4740  
; K9687  
K9676 ; K9712 K9676 ; K9585 K9483 ; K9483\*R

Polymer Index [1.5]

018 ; R00760 G2028 D01 D11 D10 D19 D18 D31 D50 D60 D76  
D87 F62 ;  
A999 A157\*R

Polymer Index [1.6]

018 ; D05 D16 D13 D19 D18 D34 D76 D77 D50 D61\*R D95 F23  
F62 I\* 7A  
; A999 A204

Polymer Index [2.1]

018 ; G1821\*R D01 F78 D11 D10 D24 D22 D32 D77 D45 D50

D92 F34 ;  
R00001 G1503 D01 D50 D81 F22 ; A999 A782 ; A999 A157\*R  
; P0259\*R  
P0226 D01 ; M9999 M2200

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-144398

Non-CPI Secondary Accession Numbers: N1999-367126

DERWENT-ACC-NO: 2002-291273

DERWENT-WEEK: 200253

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TITLE: Anti-reflective coating composition  
for deep ultraviolet application contains resin binder and  
photoacid generator

INVENTOR: DOCANTO, M ; PAVELCHEK, E K

PATENT-ASSIGNEE: SHIPLEY INC[SHIL] , SHIPLEY CO LLC[SHIL]

PRIORITY-DATA: 2000US-0616851 (July 14, 2000) ,  
2001US-0904587 (July 14, 2001)  
, 2000US-0685750 (October 10, 2000)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	
LANGUAGE		MAIN-IPC	
US 20020012875 A1		January 31, 2002	N/A
012	G03F	007/26	
CN 1347932 A		May 8, 2002	N/A
000	C08J	005/00	
KR 2002007135 A		January 26, 2002	N/A
000	C08J	009/22	

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
US20020012875A1	Div ex	
2000US-0616851	July 14, 2000	
US20020012875A1	N/A	
2001US-0904587	July 14, 2001	
CN 1347932A	N/A	
2001CN-0117235	March 27, 2001	
KR2002007135A	N/A	
2001KR-0014871	March 22, 2001	

INT-CL (IPC): C08J005/00, C08J009/22 , C08L083/00 ,  
G03F007/26



RELATED-ACC-NO: 2001-662161

ABSTRACTED-PUB-NO: US20020012875A

BASIC-ABSTRACT:

NOVELTY - An anti-reflective coating composition consists of resin binder, acid or thermal acid generator, and photoacid generator.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (A) a coated substrate and (B) formation of photoresist relief image. The substrate comprises a coating layer of the inventive composition and a coating layer of a photoresist. The photoresist relief image is formed by sequentially applying on a substrate, a layer of the inventive coating composition and a layer of photoresist composition, exposing the photoresist layer to activating radiation, and developing the exposed photoresist layer.

USE - For deep ultraviolet application.

ADVANTAGE - The inventive composition effectively reduces undesired footing or notching of an overcoated photoresist relief image.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: ANTI REFLECT COATING COMPOSITION DEEP  
ULTRAVIOLET APPLY CONTAIN  
RESIN BIND GENERATOR

DERWENT-CLASS: A14 A25 A26 A85 A89 G06 L03 P84 U11

CPI-CODES: A08-M08; A12-L02; G06-D04; G06-F03C; G06-F03D;

EPI-CODES: U11-A05; U11-A06A; U11-C04A1H;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; G0419 G0384 G0339 G0260 G0022 D01 D12 D10 D26 D51  
D53 D58

D63 F41 F89 D07 D11 D21 D18 D33 D79 D94 ; R01463 G0408  
 G0384 G0339  
 G0260 G0022 D01 D11 D10 D12 D26 D51 D53 D58 D63 D86 F27  
 F26 F41  
 F89 ; H0022 H0011 ; S9999 S1627 S1605 ; P0088  
 Polymer Index [1.2]  
 018 ; Q9999 Q7114\*R ; Q9999 Q6791 ; B9999 B4422 B4400  
 B4240 ; Q9999  
 Q8684 Q8673 Q8606 ; K9483\*R ; K9676\*R ; ND01  
 Polymer Index [1.3]  
 018 ; D01 D11 D10 D50 D84 F27 F26 F34 ; A999 A475  
 Polymer Index [1.4]  
 018 ; D01 F07\*R ; A999 A157\*R  
 Polymer Index [1.5]  
 018 ; D01 D11 D10 D19 D18 D31 D76 D50 D60 F62 F75 ;  
 A999 A748  
 Polymer Index [1.6]  
 018 ; D01 D11 D10 D16 D13 D19 D18 D34 D95 F62 D69 I\* 7A  
 ; A999 A748

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2002-085391

Non-CPI Secondary Accession Numbers: N2002-227422